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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/864,004	05/23/2001	Tomi-Pekka Takalo	460-010353-US(PAR)	1873

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EXAMINER	
PHU, SANH D	

ART UNIT	PAPER NUMBER
2682	8

DATE MAILED: 08/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/864,004	TAKALO ET AL.	
	Examiner	Art Unit	
	Sanh D Phu	2682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 July 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to the amendment filed on 7/1/2004.

Claim Rejections - 35 USC § 102/103

3. Claims 1-17, are rejected under 35 U.S.C. 102(b)/103(e) as being anticipated by, or being unpatentable over Bath et al (5,701,594), previously cited.

Regarding to claim 1, see Fig. 1, col. 1, lines 9 to col. 3, line 13, Bath et al disclose a method for implementing a transceiver (Fig. 1), in which method radio-frequency (RF) signals are transmitted and received with a transceiver for communicating information, wherein a radio-frequency signal received at a receiving stage (1, 2, 3, 4, 5, 6, 7, 8, 9, 10,11, 12, 13, 14, 15) is subjected to at least a first filtering step (6,11), in which a desired receiving signal is separated from the signal with a filter (6,11), and a signal to be transmitted at a transmission stage (20,21, 22, 23, 24,11, 25, 26,6, 27,2,1) is subjected to at least a digital-to-analog conversion (20) and a second filtering step (6,11), in which a desired transmission signal is separated with said filter from the signal

to be transmitted. Further, because the second filtering is set to pass only the desired transmission signal in the transmission mode (see col. 2, line 66 to col. 3, line 12), the second filtering is inherently or obviously by a skilled in the art designed to pass and separate the desired transmission signal from other considered signals which may include the leakage quantization noise formed in the digital-to-analog conversion.

Regarding to claim 2, Bath et al disclose that the method characterized at the receiving step, also at least a second filtering step is performed, in which the received signal is subjected to rejection of signals outside of the receiving frequency range substantially defined for the system (filter is Band-pass Filter, see col. 1, lines 42-47 and col. 2, line 12).

Regarding to claim 3, Bath et al disclose that the method characterized at the receiving stage, also at least a first conversion step (15) is taken, in which the received analog signal is converted to digital form (see col. 1, lines 9-24).

Regarding to claim 4, Bath et al disclose that the method characterized at the transmission stage, also at least a second conversion step (20) is taken, in

which the digital signal to be transmitted is converted to analog form (see col. 1, lines 9-24).

Regarding to claim 5, Bath et al disclose the method characterized at the receiving stage, before the first filtering step, at least a first mixing step (5, 8, 13) is taken, in which the received radio-frequency signal is mixed with a local oscillator signal (see col. 2, lines 8-29).

Regarding to claim 6, the method characterized in that the received signal is converted at the first mixing step (mixer 5) to a baseband signal (see col. 2, lines 7-29).

Regarding to claim 7, Bath et al disclose that the method characterized in that the method also comprises elimination of a DC offset voltage from the signal formed in the first mixing step (a local oscillator provides a frequency) (see col. 2, lines 7-29).

Regarding to claim 8, Bath et al disclose that the method characterized in that the received signal is converted in the first mixing step to at least one intermediate frequency (IF filter 6) (see col. 2, lines 7-29).

Regarding to claim 9, with similar reasons set forth for claim 1, Bath et al disclose a transceiver (1)(Figure 1) comprising transmission means (20,21, 22, 23, 24, 11, 25, 26,6, 27,2,1) for transmitting radio-frequency signals and receiving means (1, 2, 3, 4, 5, 6, 7, 8, 9, 10,11, 12, 13, 14, 15) for receiving radio-frequency signals, which receiving means comprise filtering means (6,11) for filtering the received radio-frequency signal to separate a desired receiving signal, and which transmission means comprise at least a digital-to-analog converter (20) for performing a digital-to-analog conversion to a signal to be transmitted, and filtering means (6,11) for separating a desired transmission signal to be transmitted as a radio-frequency signal, said filtering means of said transmission means and said filtering means of said receiving means comprising at least partly a common filter (6,11) adapted to perform said filtering of the received radio-frequency signal and filtering of quantization noise formed in the digital-to-analog conversion from the desired transmission signal (see col. 1, lines 25-33) .

Regarding to claim 10, Bath et al disclose that the transceiver (1) characterized in that it also comprises at least a band filter (BF) to reject signals

outside of the receiving frequency range substantially defined in the system, from the received signal (filter is Band-pass Filter, see col. 1, lines 42-47 and col. 2, line 12).

Regarding to claim 11, Bath et al disclose that the transceiver characterized in that it also comprises means (15) for converting the received analog signal to digital form (see col. 1, lines 9-24).

Regarding to claim 12, Bath et al disclose that the transceiver characterized in that it also comprises at least means (20) for converting the digital signal to be transmitted to analog form (see col. 1, lines 9-24).

Regarding to claim 13, Bath et al disclose that the transceiver characterized in that it also comprises at least one mixer (5,8,13,23,25,26) to mix a local oscillator signal with the received radio-frequency signal (see col. 2, lines 7-16).

Regarding to claim 14, Bath et al disclose that the transceiver characterized in that the received signal is arranged to be converted in said mixer (5, 8,13,23,25,26) to a baseband signal (see col. 2, lines 7-29).

Regarding to claim 15, Bath et al disclose that the transceiver characterized in that said means (20) for converting the digital signal to be transmitted to analog form is also used for eliminating a DC offset voltage from the signal formed in said mixer (5, 8,13,23,25,26) (see col. 2, lines 7-29).

Regarding to claim 16, Bath et al disclose that the transceiver characterized in that the received signal is arranged to be converted in said mixer (5, 8,13,23,25,26) to at least one intermediate frequency (see col. 2, lines 7-29).

Regarding to claim 17, with similar reasons set forth for claim 1, Bath et al disclose that a wireless communication device (MS) comprising transmission means (21,22,23,24,11,25,26,6,27,2,1) for transmitting radio-frequency signals and receiving means (1,2,3,4,5,6,7,8,9,10,11,12,13,14,15) for receiving radio-frequency signals, which receiving means comprise filtering means (6,11) for filtering the received radio-frequency signal to separate a desired receiving signal, and which transmission means comprise at least a digital-to-analog converter (20) for performing a digital-to-analog conversion to a signal to be transmitted, and filtering means (6,11) for separating a desired transmission

signal to be transmitted as a radio-frequency signal, said filtering means of said transmission means and said filtering means of said receiving means comprising at least partly a common filter (6,11) adapted to perform said filtering of the receiving radio-frequency signal and filtering of quantization noise formed in the digital-to-analog conversion from the desired transmission signal (see col. 1, lines 25-33).

Response to Arguments

4. Applicant's arguments with respect to claim 1-17 have been considered but are moot in view of the new ground(s) of rejection as set forth above in this Office Action.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is

filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanh D Phu whose telephone number is (703) 305-8635. The examiner can normally be reached on 8:00-16:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 703-301-6739. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-8635.

Sanh D. Phu
Examiner
Art Unit 2682

SP

LEE NGUYEN
PRIMARY EXAMINER